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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/596,556	06/19/2000	John Petter Fjeldstad	1380-0148	4133

2292 7590 10/12/2004

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EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 10/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/596,556	Applicant(s) FJELDSTAD ET AL.	
	Examiner Martin J Angebrannt	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-12 and 18-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-12 and 18-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/17/04</u> <u>7/18/04</u> <u>lw</u> | 6) <input type="checkbox"/> Other: _____  |

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1 The response of the applicant has been read and given careful consideration. The issue of pulse heating and the statement of the applicant's representative that the instant application and the application, which matured into US patent 6,558,851, were commonly owned at the time the invention was made obviate the rejection except those set forth below. The copy of the PTO-1449 in the file has all the requisite signatures and initialization. A copy is forwarded to the applicant with this mailing.

2 The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3 Claims 2,3,4,6,7,20,21 and 38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-14 of U.S. Patent No. 6,558,851 in view of SU 1807444, Okushko et al., "Recording of double-exposure holographic interferograms on photothermoplastic materials using residual memory. *Avtometriya*, Vol. 4, pp 86-90 (1994) and Schwartz '698.

Claims 4-14 of U.S. Patent No. 6,558,851 recite preparing a recording medium having a composition embraced by the instant claims, charging the surface and forming a hologram. These include a recitation of N-epoxypropylcarbazole with 5 wt % butylglycidyl ether media

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sensitized with MDOSTFC and H-DDFC. These claims also describe the recording of plural holograms for non-destructive testing.

SU 1807444 teaches the process of recording a hologram, where initially the TP film is not heated and the surface is corona charged and exposed to the holographic pattern of light, the development process is begun with heating until a desired diffraction efficiency is reached, and the image is fixed by cooling, when operating in a cyclic (multiple exposure mode) the temperature of the thermoplastic (TP) layer is measured by sensor (18) and the effects of pulse heating of the substrate is controlled.

Okushko et al., "Recording of double-exposure holographic interferograms on photothermoplastic materials using residual memory. Avtometriya, Vol. 4, pp 86-90 (1994) teach recording the first hologram, a pause, erasure, a second exposure and simultaneous development of the two holograms for non-destructive testing. (page 87)

Schwartz '698 teaches thermal erasure. (6/59-66)

The claims of the patent do not recite the use of pulsed heating but do describe the general process and its use in non-destructive testing, which Okushko et al. teaches as using double-exposure techniques with an erasure between the recordings, SU 1807444 indicates the use of pulsed heating techniques to prevent overheating of the substrate and Schwartz '298 clearly establishes that heating processes used in development and erasure are the same. The examiner holds that it would have been obvious to one skilled in the art to modify the claimed invention of U.S. Patent No. 6,558,851 by using pulsed heating to erasure or develop the image based upon the use of pulsed heating within the art to prevent overheating of the substrate by SU 1807444 and the fact that heating is repeatedly applied to the medium when recording multiple

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holograms as discussed by Okushko et al. and Schwertz '698 for development and (partial) erasure.

It is not clear if the term "pulsed heating" applied to heat merely being applied at different times in the process, or if the heating during a single step is actually pulsed. The specification is not illuminating on this point.

The use of pulsed heating is taught in the combination of the references and the examiner notes that the recited process does not preclude this being part of the development stage.

4 Claims 2-12 and 18-38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-14 of U.S. Patent No. 6,558,851 in view of SU 1807444, Okushko et al., "Recording of double-exposure holographic interferograms on photothermoplastic materials using residual memory. Avtometriya, Vol. 4, pp 86-90 (1994) and Schwertz '698, further in view of Cherkasov et al., "Photothermoplastics for spectral holography", Opt & Laser Technol. Vol. 28(4) pp. 219-293, SU 1805445 and Levy et al. '321.

Cherkasov et al., "Photothermoplastics for spectral holography", Opt & Laser Technol. Vol. 28(4) pp. 219-293 teaches the thermodevelopment process is specific to the medium and that the thermomechanical curve and the Tg of the material determine the heating rate.

SU 1805445 teaches monitoring the zero diffractive order during development.

Levy et al. '321 teach thermal development where the softenable material is heated to 60-130 degrees C. (11/47-12/6).

It would have been obvious to one skilled in the art to modify the invention of claims 4-14 of U.S. Patent No. 6,558,851, combined with SU 1807444, Okushko et al., "Recording of double-exposure holographic interferograms on photothermoplastic materials using residual

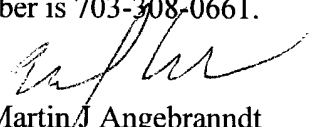
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memory. Avtometriya, Vol. 4, pp 86-90 (1994) and Schwertz '698 by using ramp heating and starting at any temperature below the Tg of the recording material, including 36 degrees C based upon the teachings of Cherkasov et al., "Photothermoplastics for spectral holography", Opt & Laser Technol. Vol. 28(4) pp. 219-293 and Levy et al. '321 with a reasonable expectation of developing the latent image of the hologram. There is no evidence that the starting point of the development is critical, although the exact range of the heating might be and further it would have been obvious to monitor the diffraction of the medium during the process using the zero order as is known in the art to control the development and erasure processes.

5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebrannt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9309 for regular communications and 703-872-9309 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Martin J Angebrannt  
Primary Examiner  
Art Unit 1756

September 30, 2004